focus

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Venezuela

Venezuela, oil, and Western defense are inextricably linked together. During 1952 Venezuela's subterranean treasury may yield more than 1,900,000 barrels of oil a day. Second only to the United States as an oil producer, she is the world's greatest exporter of this precious liquid mineral—vital to the economic well-being of any modern state and to the preservation of international security.

Venezuela's oil policy, which encourages development by foreign enterprise, has benefited both the national government and foreign corporations. The state's share of 50 per cent of net oil profits now constitutes 60 per cent of her annual revenue and 95 per cent of her foreign exchange. Primarily because of these developments, which have trebled production since prewar 1939, the country at present enjoys the unique position of having no external debt and only a negligible internal one.

Before the oil era, Venezuela was almost exclusively an agricultural country, divided by strong sectional differences. Until the present roads and airfields had been built (many of them with oil money), the *andino* of the western Andean country was as different from the *caraqueño* of the northern coastal mountains as the Yankee was from the Southerner in the United States. Communications from one region to another were extremely difficult: a trip from Mérida, cultural center of the Andes, to Caracas required anywhere from two to four weeks of arduous travel.

Cultivation methods were primitive and wasteful. Like most of Latin America, Venezuela inherited the *conuco,* or cut-and-burn system of the aborigines. Once the plant food value of a cleared area was exhausted, the planter moved to another spot. If after a few years the original plot had not been denuded of its topsoil or gullied beyond use, he might replant —with constantly diminishing yields. Finally the time came when little more than the original sowing was reaped. Two bushels of corn to an acre of land was, and still is, not uncommon in parts of the Andes, for instance, as compared with some 40 bushels in the central United States.

Another agricultural problem was the natural unsuitability of many regions for cultivation. Slopes of as much as 45° were planted. What happened is not hard to imagine. Soils were swept away or leached beyond any practical use. Extensive farmed areas were destroyed by gullying (Fig. 3). As a direct result, rainfall is now followed by rapid runoff and loss of water. Detritus, carried down with the streams, is choking the lowlands in many places.

Today three-quarters of the 5 million people of Venezuela are still farmers. With her northernmost point only 850 miles from the equator, the country

lies entirely within the tropics, yet has climates ranging from wet and dry tropical to alpine with perpetual snow. These great differences are essentially a matter of elevation. There is slight change in temperature throughout the day and little variation within the year. Rainfall and lack of it—not temperature—are the basis for the two seasons of "winter" and "summer" (Fig. 2). These great differences in climate permit the cultivation of a large variety of crops. Tropical vegetables and fruits succeed up to about 3,000 feet; temperate crops are grown in an overlapping belt ranging from 1,500 to 8,000 feet. Above this, to about 11,500 feet, is the land of potatoes and wheat.

The country may be broadly divided into four major regions (Fig. 1). The southernmost, the Guayanan Hinterland, is relatively inaccessible, little exploited, and in parts unexplored. Large areas are densely forested; others are interspersed grasslands and gallery woods. Tabular sandstone mountains of the south, one of which inspired Sir Arthur Conan Doyle to write *The Lost World,* still await ambitious botanists, ornithologists, and other scientists to unravel their mysteries. It was in Guayana that the early Spanish explorers believed the fabulous El Dorado, city of gold, to lie. El Dorado was eventually discovered in vein gold at El Callao, which in the latter part of the nineteenth century became for a brief period the world's largest gold-producing mine. Alluvial gold and diamonds are found in many areas, and are the cause of numerous local gold fevers. However, the greatest potential of Guayanan wealth is the rich iron deposits in its north.

North of Guayana are the thinly settled *llanos,* or grasslands. In general, their gentle slopes are subject to extensive and at times disastrous flooding during the rainy season, and under the hot sun of the droughty dry season their clay soils become hard-baked; in most areas they are too poor for cultivation. The continued practice of annual burning has in many places deprived them of much of their original organic material, and even as cattle country the region is far from ideal. Beneath the grasses of the eastern *llanos,* geologists found oil in the thirties and have brought into production fields which now contribute more than a quarter of the total annual output.

The northern coastal zone is a narrow belt, in part arid, lying between the abrupt coastal mountains and the Caribbean Sea. At its western extreme is the Maracaibo lowland, location of some of Venezuela's best agricultural lands and her greatest oil fields. Maracaibo, with a population of 220,000, has been built up into an active modern city, the second largest in the country, and is now capital of the western oilfields region. Only 70 miles to the southwest, in the lowlands bordering the Sierra de Perijá, untamed Motilone Indians still build their oval community houses in forest clearings. Rarely seen by the white man, they will have no traffic with him. The government employs an enlightened policy of gentle treatment and nonaggression, though oil geologists have found it pays to equip their boats with fine meshed wire to avoid hostile arrows during exploratory river trips.

Approximately 70 per cent of the population are concentrated in the high Andes and the extension eastward into the coastal range of the north. This rugged mountain belt comprises only 12 per cent of the country but much of the agriculture is carried on there. The Venezuelan farmer of the mountain belt is faced with problems no conservative New England farmer would have dreamed about in his wildest nightmare. In New England stones and rocks were cleared from the fields with hard labor in order to cultivate with animal power; in many parts of the Andes rocks have proved to be a godsend by preventing undue erosion on excessively steep slopes otherwise unfit for hand cultivation. It has been estimated that 70 per cent of all cultivated fields in the high Andes have slopes greater than 35°. Yet the general experience of farmers throughout the world shows that, with few exceptions, slopes of such steepness cannot be satisfactorily cultivated.

The Andean farmer continues to practice the primitive methods of his ancestors and, unfortunately, pays virtually no attention to contour cultivation, terracing, and the proper use and care of the land. It is not pleasant to realize that today sixty per cent of all the Andean cultivated land is rated below medium.

Corn, beans, plantains, bananas, and sugar are the major foodstuffs. Green vegetables could be grown in quantity—for example, in the valley of Caracas—but local tastes create no large demand. Corn has been described as the most important item in the alimentation of the Venezuelan, yet not enough is grown to supply his needs, and most Venezuelans are too poor to buy imported food.

Overcoming these shortages of food and money will

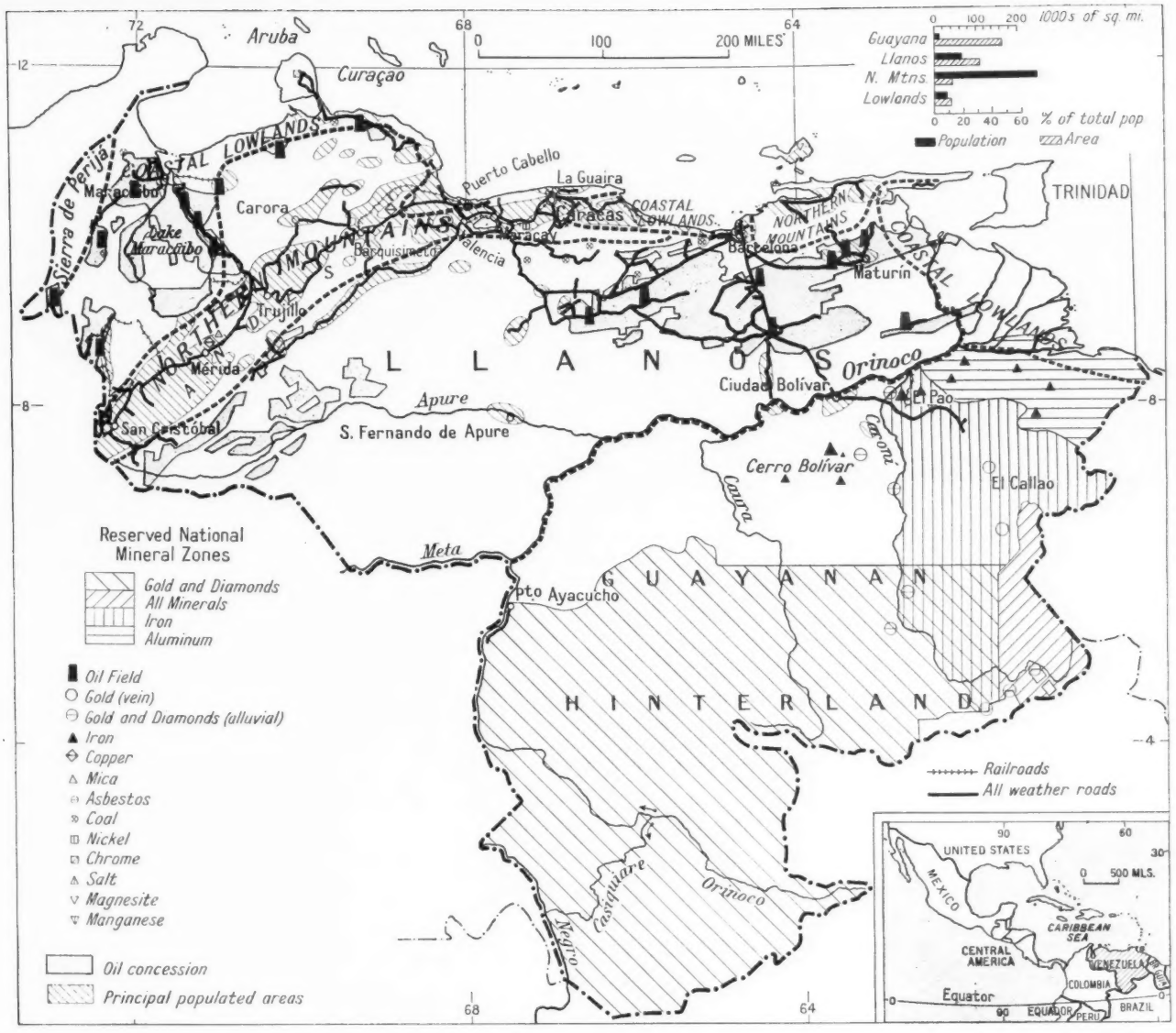


FIG. 1—Minerals, population, and communications

require intelligent planning, hard work, and patience. The agricultural workers have only recently begun to benefit from the flow of foreign capital. Nearly a third of the present government budget is being expended on public works. Much of that money is going toward road building, in itself a prelude to better agricultural development. A tenth is being devoted primarily to agriculture. In addition, great pride is being shown in national programs for both health and education.

Oil production, on which this remedial program to a large extent depends, reached more than 622 million barrels in 1951, an all-time record. Over 1,000 new wells were drilled. At present, there are about 8,000 wells in active production. (See Fig. 1 again for the distribution of oil and other mineral deposits.)

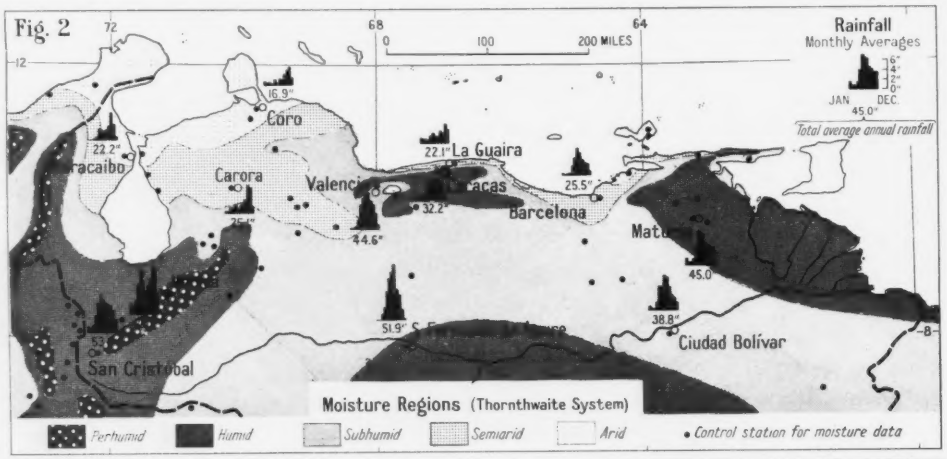
A development of particular note is the construction of local oil refineries in recent years. Seven have now been completed. Production exceeded 115 million barrels in 1951, and refining capacity is expected eventually to be more than 400,000 barrels a day. Some doubt has been expressed whether this level will be greatly exceeded, since many importing countries insist on doing their own refining. Venezuela has a wide range of crude oils, and is fortunate enough to possess the largest reserve in the world of heavy crude oils suitable for fuel oil, the demand for which in the United States is seemingly insatiable.

Venezuela's dependence on revenue from oil exports has been such that any drop in United States needs or change of attitude with respect to oil importation seriously affected the local economy. But now, with iron ore as a potential export, second to petroleum, there should prove to be a basis for a more secure economy in case of a drop in petroleum demand or prices.

Iron has long been known to exist in Guayana. In 1883 the Venezuelan government granted a concession for its exploitation. In 1901, 700 tons of ore were shipped to Baltimore, Md. In 1939 an expedition reported that there were possibly a billion tons of iron ore in northern Guayana, but it is only since the 1940's that active interest has been shown in its development. Bethlehem Steel Corporation obtained a concession at El Pao, a mountain rich in iron and suitable for open-pit mining. In March, 1951, ore exportation began that required rail, barge, then ocean-going transhipments before reaching its destination at Sparrows Point, near Baltimore. At the moment, 85,000 tons are being exported monthly.

La Parida (Cerro Bolívar), another iron mountain, is now being developed by a United States Steel subsidiary and is scheduled for open-pit production, within five years, possibly three. It is estimated to contain half a billion tons of high-grade ore averaging 63.5 per cent iron. The Orinoco is now being dredged for ocean-going vessels, a new river port is under construction, and shipments will be made by rail from mine to port, thence by ocean-going vessels directly to the United States. Consideration is also being given to the development of a local steel industry, making use of natural gas.

With the rapid development of oil came economic maladjustments, and more may be expected as the new iron industry grows. Many rural dwellers have migrated to more lucrative jobs in the petroleum fields. Others have been moving in large numbers to the cities, where life may be easier at the moment, though serious slum problems are being created. Caracas has increased from 270,000 inhabitants in 1940 to more than 660,000 at the present time, and



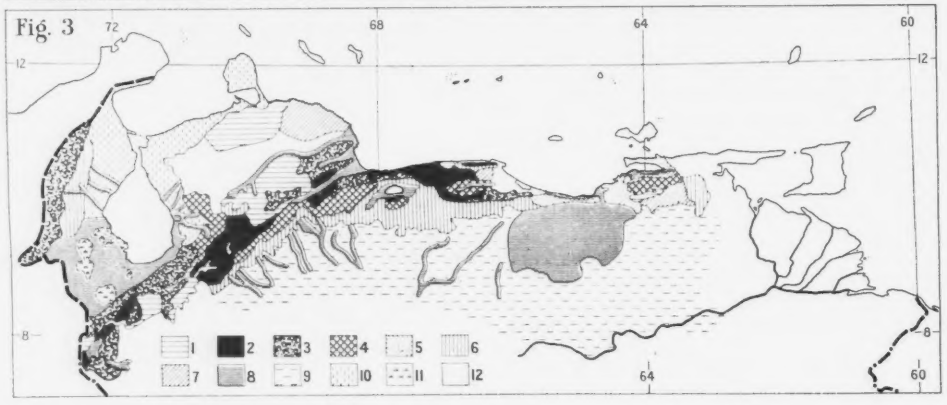


FIG. 2—Moisture regions and rainfall FIG. 3—Land classification

1. Alpine uplands and severely eroded mountains and hills; largely unsuited to cultivation. 2. Steep, deforested mountains susceptible to severe erosion; 80 per cent too steep for cultivation and in need of reforestation. 3. Steep, forested mountain land; little farming; 80 per cent should remain in forest. 4. Moderately steep mountainland; extensive grazing and some farming; 75 per cent too steep for farming. 5. Low mountains susceptible to severe erosion; heavy dry forest; little farming. 6. Savanna mountains, hills, and benchlands; primarily grazing. 7. Foothills and coastal hill country; locally forested; considerable farming; suitable for agriculture with conservation practices. 8. Stream bottoms, nearly level plains (*llanos*), and rolling plains; good agricultural land, in places intensely cultivated. 9. Rolling to nearly flat plains; suitable primarily for grazing. 10. Lowlands with little or no cultivation. 11. Marsh. 12. Unclassified.

other urban centers show similar spectacular growth. In fact, modern Caracas has been called the boom city of South America. Block after block of houses is being torn apart to make way for new avenues. New re-enforced concrete buildings, not always things of beauty, are rising by the dozen.

Certain industries are being built up, but internal economic activity is still on a relatively reduced scale. The cotton textiles industry is being increased, but it has been necessary to import about half the cotton in recent years. The government has granted total or partial exemption from import duties on many products for industrial use. The six principal articles of import, monetarily, are machinery, iron and steel products, cotton textiles, automobiles, chemical products and wheat flour. The local soap industry has long filled the needs of the country, but this has been made possible by customs exemptions on imported tallow and caustic soda.

The first large natural-gas pipeline in Venezuela is being constructed from the oil fields of the *llanos* to some of the principal cities, including Caracas, Maracay, Valencia and La Guaira. Aside from its domestic use, this should stimulate a number of industries and cut production costs. However, it must be borne in mind that costs are high and price levels still rising. This situation in itself creates a barrier to the development of new industries, which the government desires. Furthermore, a great obstacle to the industrial effort is the limited domestic market, due to the low purchasing power of a large part of the populace. These are merely a few of the difficulties confronting industrial development.

The fact remains that Venezuela must import a larger part of her food in order to exist. The top problem is rehabilitation of the agricultural lands and improvement in the economic status of the large rural bloc. With the present government attitude, the prospects for gradual relief of this situation are promising. Proved oil reserves are estimated at more than 8 billion barrels, and it is expected that even more will be discovered. Reserves of high grade iron ore may exceed a billion tons. There is no reason to doubt that the world will continue to demand these essential materials, and that Venezuela will play an important part in supplying them to her good friends.

C.B.H.

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